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CENTRAL INTELLIGENCE AGENCY

INFORMATION REPORT

COUNTRY Hungary

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SUBJECT Scientific Equipment

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THIS IS UNEVALUATED INFORMATION

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there was a definite shortage of laboratory equipment such as pipes, faucets, and laboratory tubes. Often a new laboratory, otherwise complete, remained idle for months because of the lack of such equipment. On the whole, the laboratories in the Natural Sciences Department of the Eotvos Lorand University were fairly well equipped. Even so, there were often shortages of necessary materials; once we had to wait several months for lithium. Even simple instruments were sometimes hard to obtain; we had a great deal of difficulty getting a monochromatic sodium vapor lamp. Some scientific equipment was imported from England and Switzerland, but most of it came from East Germany and the Soviet Union. (The name of the factory as well as the country of origin was removed from those instruments imported from England.) Imports of scientific equipment from the West had practically come to a standstill because of Hungary's lack of hard currency. Simple lenses and prisms were hard to get; the Physics Institute was reluctant to lend such items because replacement was very difficult. All chemical supplies for scientific laboratories had to be ordered six months in advance through Chemimpex, the government importing office handling chemicals.

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2. For 1952 the government had granted the Physical Chemistry Institute of the Eotvos Lorand University about 140 thousand forints (approximately 10 thousand dollars) for technical equipment, and 30 thousand forints (about \$2,500) for glass utensils. The "five year plan" provided for the

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purchase of many new instruments. [REDACTED] the instruments in the laboratory were 15-20 years old, but in good working order. Instruments in the Physical Chemistry Institute included:

- (a) Chemical balances - made in Budapest by Erdelyi es Szabo (formerly Zier) on Lilliom utca. The laboratory had two balances similar to the chain-O-matic, but they were not considered precision instruments.
- (b) Lippich polarimeter
- (c) Abbe refractometer
- (d) Pulfrich photometer - two. The Institute purchased a vertical type Pulfrich photometer from Zeiss/Kiev. It was generally conceded that the optics of this instrument were inferior to those of a similar instrument bought years before from Zeiss/Jena. This instrument was used to determine reflection intensities of light from surfaces prepared by anodic polishing. Students also used the instrument to run absorption curves on colored organic solution.
- (e) Potentiometers with automatic compensation (resistance of working battery was kept constant) - Both instruments were made locally by an engineer, Di Gleria, in a small work shop.
- (f) Resistance boxes and switches - These were obtained from the US through UNESCO in 1948-1949.
- (g) Storage batteries (accumulators) - These, of 69 amp-hr capacity, were supplied by the Varta plant in Budapest. They were of the glass wall, lead-acid type with glass fiber separators. The policy seemed to be to exchange them every six months at the factory.
- (h) Nickel-Iron batteries ("Nife")
- (i) Photo cells
- (j) Frequency generators for conductivity measurements
- (k) pH Potentiometers using the glass electrodes - imported from Denmark.
- (l) Geiger-Mueller counters - had to be imported because no Hungarian firm had ever been able to construct counters with plateau characteristics.
- (m) Oscilloscopes - several. [REDACTED] a new oscilloscope with a 15 cm screen had arrived from Switzerland.
- (n) Capacity bridge for use with electron tubes - imported from England. It used both telephone and visual balancing.
- (o) Contax 35 mm camera with an "F" number of 2.0 [REDACTED]
[REDACTED] it came from the West. The cost to the Institute was 2,800 forints; it would have cost an individual 10 thousand forints. Usually, however, there were none available for private purchasers. ([REDACTED] Zeiss/Kiev had copied the Leica camera and was putting [REDACTED] a good instrument.)

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- (p) Cathode ray oscillograph - was used in the investigation of polarization capacity. (There was also a cathode ray oscillograph in the Central Physics Research Institute).
 - (q) Cloud chambers - several, some 50 cm in diameter.
 - 3. A glass blower, Henrik Bucsek, divided his time among the several chemical institutes; it took from two to four weeks to get work done because of the great demand for his time. Only a fair craftsman, he had operated his own shop across Pushkin utca from the Eotvos Lorand University but it was nationalized in 1950 and assigned to the University. The Physics Institute had a shop with three or four skilled instrument makers.
 - 4. As far as I know, there were only three electron microscopes in Hungary. Two belonged to the Electronmicroscopy Institute of the Academy of Sciences; they were located at the Eotvos Lorand University and the other one was in the Polytechnical Institute in Budapest. I think that one was obtained from Switzerland in 1950; the other two arrived in 1951. I believe that the latter two came from Czechoslovakia because Dr Iren Sugar, an assistant in physics, had gone to Czechoslovakia to study the operation of the electron microscope and remained in Prague for four months.
 - 5. In addition to those mentioned above, the following countries exported scientific equipment and materials to Hungary:
 - (a) Czechoslovakia - precision instruments, Abbe refractometers, microscopes, oscilloscopes;
 - (b) Germany (Soviet Zone) - Hoeppler viscosimeter, oscillograph ultrathermostat, and such chemicals as potassium, chlorine, bromine, iodine;
 - (c) USSR - electrical instruments, ammeters, voltmeters, drilling machines, lathes, optical instruments (mostly from Zeiss/Kiev), micrometer screws.
- Because of the difficulty of exchange, little was imported from the West, but there were some exceptions:
- (d) England - chemicals, capacity meter (received in the Summer of 1951), capacity measuring equipment;
 - (e) Switzerland - oscilloscopes.

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